

BULLETIN OF
THE NEW YORK ACADEMY
OF MEDICINE



VOL. 48, No. 6

JULY 1972

THE PRACTICE OF MEDICINE IN 1921

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FIFTY years ago in April 1921 I joined the staff of The Brooklyn Hospital after being graduated from the Columbia University College of Physicians and Surgeons, and completing an abbreviated wartime internship and residency in medicine at the Presbyterian Hospital in New York. In order to practice as efficiently as possible after being accepted on the staff of The Brooklyn Hospital, I decided not to seek appointment at any other hospital in Brooklyn. As a result, I have worked continuously for 50 years at our institution, and I thought it might be interesting and possibly useful to describe for the present generation what the hospital and the practice of medicine were like 50 years ago.

Our institution was the first voluntary hospital established in Brooklyn and has remained one of the four or five leading ones in the borough, with an excellent reputation in the metropolitan area. Its trustees were leading philanthropists, professional men, and business executives. Its professional staff was very strong, composed of graduates of the leading medical schools of the East: Columbia, Harvard, Yale,

and the Long Island College Hospital. We had no trouble securing a house staff of good quality, most of whom remained with us to practice medicine in Brooklyn. We were proud that in the early 1920's the trustees appointed a very well-trained black physician to our staff; he has remained an active member ever since. We had a nurses' training school of excellent reputation—one of the oldest in the State of New York.

Brooklyn from our vantage point was a moderate-sized borough then, not crowded, and fairly homogeneous in its ethnic and religious background, being predominantly white, Anglo-Saxon, Protestant; the hospital staff was of the same character. It was relatively easy to find a pleasant place for a home in Brooklyn and all the physicians on our staff lived in the borough. Good public and private schools were plentiful.

Only three of our staff were full-time hospital employees: the radiologist, the pathologist, and the director of clinical laboratories. All the rest were private solo practitioners. All the members of the Department of Medicine were internists or general practitioners actively involved in family practice. Every one of them, however, from the chief of the department down, made house calls.

When I began practice, in order to keep busy and to learn at the same time, I worked in the bacteriology laboratory doing cultures for the bacterium causing gas gangrene, one of the serious problems that plagued surgeons in those days. Soon afterward I was given the opportunity to set up and run a new Department of Electrocardiography. One of the first electrocardiographs in the United States had been operating at the Presbyterian while I was an intern there, and so I was able to learn something about reading electrocardiograms. Our instrument was the second installed in Brooklyn. My colleague and friendly rival at the Long Island College Hospital, Dr. George Roberts, had the first, six months before us. I took all the tracings and developed, mounted, and interpreted them without any assistance or remuneration. However, there resulted an important benefit to me. When physicians on the staff began to receive my electrocardiographic reports, they called on me to ask what I thought about their patients' hearts. None of the doctors could read electrocardiograms. I was forced to tell them truthfully that I could give no opinion from the electrocardiogram alone. Whereupon I was often asked to examine their patients. There was

no formal specialty in cardiology in those days, but my electrocardiographic experience plus my hospital consultations stimulated my interest in the field and before long it became my main activity in internal medicine. Nor were there residency training programs in subspecialties or certification boards. Dr. George Draper, one of my teachers at the Presbyterian, had given me some wise advice as I was leaving. He had urged me to make myself thoroughly expert in a special field of internal medicine. "Your colleagues will then turn to you for help, making you a specialist in your chosen field," he said. This was 16 years before the American Board of Internal Medicine was founded!

For a young physician on the staff of The Brooklyn Hospital the practice of medicine was enjoyable but not easy. We worked seven days a week with no days off except during vacation periods. I was given the lowest rank on the staff and assigned to work in the medical clinic of the dispensary (outpatient department), serving among my young colleagues. Here one had little or no contact with more senior physicians, since they no longer worked in the dispensary. It was not until one had become established and had gained the approval of one's chief that one was assigned as a junior attending on ward service.

Most of the medical men had office hours in the morning, usually in their homes. They came to the hospital, saw their private patients, worked in the clinic or on the wards when on duty, and then went out on house calls. We had no affiliation with the medical school at Long Island College Hospital and therefore did no teaching of undergraduate medical students. Neither the hospital administration nor the senior attendings showed any desire to do so.

Dr. Frank L. Babbott, a close friend and classmate and a former intern at The Brooklyn Hospital, was then assistant dean of the medical school at the Long Island College Hospital. He and I devised a scheme by which we hoped to change the attitude of the hierarchy at The Brooklyn Hospital toward having medical students in our wards and clinics. Without permission from anyone, we set up an unofficial course for undergraduate medical students on Thursday nights in our cardiac clinic. Dr. John N. Edson, now chief of medicine at the Long Island College Hospital, was one of our first students. The experiment was so satisfactory to the students and the physicians in the cardiac clinic that we made an open confession of our sins to Dr. W. G. Neally, the superintendent, and to Dr. Joshua Van Cott, chief of medicine. Both

men gave us their blessings. Before long the course became official and was listed in the college catalogue, and negotiations were underway to establish a full-fledged affiliation between The Brooklyn Hospital and the Long Island College Hospital for the teaching of undergraduate medical students in all four clinical departments.

Fifty years ago the relation between the physicians and their patients was usually very close. The general practitioners, of whom there were still a few on our staff, tried to do everything—medicine, surgery, obstetrics, and pediatrics—and partly because of the paucity of medical knowledge of that day they were able to perform useful functions. We internists limited our work to adults. We took care of all problems that were within our competence; for those that were not we selected the specialists for our patients to consult. We were truly family advisers. We knew their problems intimately and we were dedicated to helping our patients solve them. Without fully realizing it, we were acting as what our health planners of today are trying to recreate: “the primary physician.” For better or worse, the body of medical knowledge has now become too heavy for the old-fashioned general practitioner.

The social life of the physicians in Brooklyn was in general very pleasant. Especially in our neighborhood the borough was a delightful place in which to live. Its cultural resources were rich and varied, and its population included many successful upper and middle class people. There were poor people, but their problems seemed straightforward and amenable to simple solutions. We physicians felt we were fulfilling our duty by caring for them in the clinics and the wards of The Brooklyn Hospital in an easy if unconscious spirit of noblesse oblige.

The physicians and their wives knew each other well and enjoyed their social life together. This companionship carried over to the trustees and their families. We met regularly at symphony concerts and the Metropolitan Opera at the Brooklyn Academy of Music and in small clubs where evenings were spent listening to musicians, artists, and lecturers in many fields. Of course we went to Manhattan for the theater and dining but these trips were special occasions. Many of our friends were also our patients.

From the point of view of the trustees and the administration, the running of the hospital presented no very great problems. The institution operated in the black or with a small deficit, which was usually

made up by one of the trustees or by a well-to-do member of his family. The chief administrative officer was a physician, Dr. Willis G. Neally, a man of ability and sagacity. He knew and got along well with the leaders of the Board of Trustees and of the professional staff. He was friendly but close-mouthed. The trustees respected his advice and opinions highly, as did the chiefs of service.

All medical administrative matters were settled at the weekly meeting of the Attendings Committee, which was composed of only five men: the chiefs of medicine, surgery, obstetrics and gynecology, the president of the medical staff, and the superintendent, Dr. Neally, ex-officio. Important matters were referred to the Board of Trustees for final decision. There were no subcommittees of the Attendings Committee, not even a grievance committee. Since some of our junior staff considered this system undemocratic, such a committee was formed. However, after a few years the committee died of inactivity.

Dr. Neally had a very small administrative staff. He and his secretary really ran the hospital. Two lady secretaries remained in office for years, one succeeding the other. They acted as buffers between Dr. Neally and the general staff and were so effective that they caused considerable animosity. To keep himself out of trouble as much as possible, Dr. Neally saw to it that the staff room was kept small; there was little space in which the staff could sit around and talk. He once confided to me that his real purpose was to prevent them from cooking up new ideas to bother him. The pace of medicine and of life in general was so much slower than it is now that under Dr. Neally's sagacious leadership there were never any serious confrontations.

The hospital had a director of nursing and a nurses' training school, a housekeeper and her staff, and a pharmacist. I cannot remember that we had any guards.

The practice of good medicine in the hospital was greatly handicapped by the inadequate system of record-keeping common at that time to all hospitals in this country and in fact prevalent the world over. Each service kept its clinical records in its own department, separate from all others. Even those services that sent their records to the record room had them filed by department. As a result a patient who had visited the hospital for a number of conditions had records in several areas of the hospital. Continuity of care and the interchange of information from service to service were greatly impeded.

At the Presbyterian Hospital in New York dissatisfaction with the methods of record-keeping resulted in 1916 in the creation of the unit-history system. The basic principle was to keep all the records of a given patient in one volume and in perpetuity. These unit histories were filed under the patient's unit number and name and were available whenever he visited the hospital. Thus the physician had before him the complete record of his patient to date, to which he must add his own observations. The unit-history system resulted in a great improvement in diagnosis, treatment, and clinical research.

It happened that Dr. William H. Field and I had learned to use the unit system at the Presbyterian Hospital and we joined the staff of The Brooklyn Hospital at about the same time. We saw immediately the great disadvantages of the old fragmented system of filing by department. Being brash young men, we decided to try to import the new system over the river to Brooklyn. We encountered resistance from the older members of the staff, who were loath to give up old ways for new and untried ones, especially those which came from New York! Eventually we compiled a document titled, "Outline of a Plan for the Introduction of a Unit-History System in The Brooklyn Hospital and Dispensary." It was formally presented to Dr. Neally, the Attendings Committee, and the Board of Trustees, and this resulted in the adoption of this radically new method. As evidence of how truly broadminded the hospital staff was, we were not fired.

The curve of advancement of medical knowledge rose very slowly between World Wars I and II. It was only during and after World War II that the precipitous rise occurred, resulting in the wonders that medicine can accomplish today. In the field of internal medicine I can speak from first-hand knowledge. In the early 1920's for patients with weak, failing hearts we had only one good medication, digitalis, the leaves of the foxglove (*Digitalis purpurea*) ground up and compressed into tablets. The drug, discovered by William Withering in England in 1785, is still our mainstay in the treatment of heart failure. The tablets varied in strength, depending upon where the foxglove was grown; as a result their effects on patients varied too. Nitroglycerin is very effective for relieving the pain of angina pectoris. In 1921 it had been in use for at least 100 years. Even now it is the best medication we have to relieve this type of pain. In 1921 we were not aware of the harmful effects of sodium chloride and of foods

containing sodium for patients with swelling of the ankles. We did not realize that this common chemical element caused retention of water in the body. To make matters worse, we had no really effective medication to increase the flow of urine and thus get rid of the water. Therefore in patients whose legs were badly swollen we inserted hollow silver needles under the skin and allowed the edema fluid to drip into buckets placed on the floor. This was a messy and clumsy treatment and was only moderately effective. Fortunately in 1924 an organic mercurial compound was introduced which proved to be fairly effective. We were also very ineffective in the treatment of irregularities of the heart. Digitalis was useful in atrial fibrillation and flutter but for sudden attacks of very rapid or very slow rhythms we had no satisfactory medications. Some of these spells were fatal.

For typhoid fever we had no treatment and were still guided by the old dictum, "Feed a cold but starve a fever." Our chief of medicine, Dr. Joshua Van Cott, had had severe typhoid as a young man. He attributed his recovery to the fact that an old family servant, instead of starving him, fed him well—without his doctor's knowledge.

Tuberculosis was a serious public problem. At that time we had no specific treatment and believed that fresh air and bed rest in prolonged doses were required. Further, we were sure that the air in the Adirondacks or in Colorado was much more helpful than that in Brooklyn! When the bread-winner of the family contracted tuberculosis it was a disaster; he was usually sent away to a sanitarium for months or years. The family income suffered and the mortality in such cases was high.

For mental illnesses there were no specific treatments, not even satisfactory sedatives. As a result patients were sent to mental hospitals when they could no longer be managed at home, and they remained there until they improved or died. Organic diseases of the brain and spinal cord were equally hopeless.

In many respects the practice of surgery had advanced farther than that of medicine. Surgeons did not rely so heavily on drugs but on action-directed intervention to remove diseased organs or to improve their functioning. Appendicitis was being successfully treated; cancers, where accessible, were removed—particularly those located in the breast, uterus, kidneys, bones, and skin. However, except for the latter, the results were usually poor. Abscesses were drained and fractures set

but, because of primitive techniques and especially the lack of antibiotics, the infection rate was high, the postoperative course long, and the mortality much too great. Consequently medical men were loath to turn their patients over to surgeons; instead they delayed surgical treatment and made matters worse.

Since the surgeons used no intravenous fluids, dehydration and the resultant electrolyte disturbances were severe and their significance was unknown. Patients were kept in a nearly upright position after operation (Fowler's position), in the hope of preventing the formation of abscesses under the diaphragm. Instead the pus settled in the pelvis, causing abscesses there. Because of the great danger of postoperative infection, drains of all sorts—rubber tubing, raffia, and sheet rubber—were placed in surgical wounds. These failed, however, and intestinal obstructions often resulted. Stomachs were not removed except for cancer. A sidetracking operation used for duodenal ulcer caused so many complications that medical men were loath to refer their patients to surgeons except for uncontrollable bleeding or obstruction of the pylorus. No colonic operating was done at all, since infections from intestinal bacteria resulted in a very high death rate.

The prevalence of tuberculosis gave the surgeons much work to do. Involvement of bony structures, especially the spine, resulted in great deformities, usually complicated by formation of abscess. Tuberculosis of the lymph nodes in the neck necessitated their removal, or at least the drainage of resulting abscesses. Because there was no effective medical treatment for the tuberculosis, recovery from operations for tuberculous infection was slow and uncertain.

Two steps were taken early in the 1930's at The Brooklyn Hospital to solve two serious problems. Because of the high mortality (45%) of acute appendicitis, two young surgeons decided to stop using drains. The death rate was cut in half immediately. Also, because three of their patients in a row died of embolism to the lungs, they decided to get patients out of bed soon after operation. The results were excellent.

It seems incredible now that blood transfusions were just coming into use 50 years ago. The technique then was cumbersome and required the withdrawal from the donor of 50 cc. of blood by syringe and its immediate injection into the patient's vein. This process was repeated until the required amount of blood had been given. Trans-

fusion reactions occurred frequently because the matching of bloods was incompletely understood. In addition the technique was so cumbersome and slow that it was used only in very serious cases.

The Department of Obstetrics and Gynecology did not exist as such; it was the Department of Obstetrics only. All gynecologic operations were done by members of the Department of Surgery. The obstetrician cared for the mother throughout pregnancy, delivered her, and took care of both mother and baby afterward. Pediatricians were not allowed in the nursery to take care of well babies; the obstetrician looked after them. Pediatricians were called to help only if illness developed. After the mother and her child went home, she took her baby to the family physician; a pediatrician was consulted for serious problems only. The obstetricians were badly handicapped because of their inability to give prompt and adequate transfusions to patients who had extensive loss of blood before, during, or after delivery. Many mothers died for want of transfusion and others were made ill because of poorly matched blood. Further, when transfusions became available, we sensitized many Rh-negative women by giving them Rh-positive blood because we had never heard of the Rh factor and its harmful effects. Moreover, when the baby had been through a difficult delivery and the obstetrician feared bleeding inside the skull, he gave 10 to 20 cc. of the mother's blood intramuscularly to the baby, thus inadvertently sensitizing many an Rh-negative girl. Because the risks of cesarean section were high, few were performed, forcing the obstetrician to use forceps in many deliveries. This resulted in many injuries to mothers and babies. Although great strides had been made since Semmelweis' discovery of the cause of childbed fever, its incidence and mortality were still too high 50 years ago because of our lack of antibiotic drugs. The control of the pain of childbirth was poor. Morphine and scopolamine were used and often resulted in toxic effects on mother and baby.

Undoubtedly the policy of limiting all operations in women except cesarean section and pelvic repairs to general surgeons forced the obstetricians to keep the care of well babies in their own hands so that they would have enough to do. Happily this situation was remedied very soon by making gynecologic surgeons members of the obstetrical department and by giving them surgical privileges, so that obstetricians who were trained in gynecologic surgery could operate at The Brook-

lyn Hospital. Even so, it took a long time and a firm chief of surgery to prevent general surgeons, who did not want to limit the scope of their work, from performing gynecological operations.

The specialty of pediatrics developed within the Department of Medicine and for many years was kept very much under its wing. In fact, the chief of pediatrics was not seated on the Attendings Committee until 1950! The interests of the pediatricians were looked out for by the chief of medicine. The specialty of pediatrics developed within the ranks of internists and family physicians who became especially interested in children and decided to specialize in their care. It took many years for pediatrics to become the strong, independent specialty it is today.

In 1921 pediatricians were greatly handicapped by the state of medical knowledge. In addition to all the treatments and procedures that impaired the work of colleagues in the other major specialties, infant feeding was unnecessarily complicated. The formulas were based on meager knowledge of the infants' digestive processes and were difficult to prepare. Because of poor or absent sterilization of milk in New York City and poor refrigeration, diarrheal diseases were prevalent, especially in summer, and the mortality was high. Further, treatment was inadequate. Fortunately it was just about that time that pasteurization and the grading of milk as to its bacterial count were being instituted. These measures soon resulted in a great reduction in illness and death from diarrheal diseases. Fifty years ago the importance of raw cow's milk in the spread of tuberculosis, particularly to infants and children, was not widely understood. Nor was it realized that cows should be tested for tuberculosis and should be destroyed if found infected. Therefore tuberculosis in children was widespread and the treatment poor.

There were a few diseases that we were able to cure. Syphilis was one. It yielded to injections of mercury, bismuth, and arsenic. Our colleagues, the surgeons, had a better record than we medical men. They cured many patients by the removal of nonmalignant tumors, by setting fractures, removing stones from the urinary tract, and taking out diseased organs such as the appendix, ovary, and the Fallopian tube.

Even though we did our best in those days and were happy in the practice of medicine, it has been a great privilege to have lived through the subsequent 50 years and to have been able to make use of

the marvelous advances that have occurred in medical practice. It is important to realize that we would have had very few of these discoveries without the contributions of physicians and scientists dedicated to study, teaching, and research. These accomplishments came about in three ways:

1) Through basic research conducted in the laboratories of our universities and their medical schools, in research institutes, and hospital laboratories. Research scientists have been reaching deeper and deeper for the ultimate mechanisms of life, health, and disease.

2) Through research conducted by physicians while practicing and studying the manifestations of disease in their hospitals and offices.

3) By the observations of able physicians who, in the course of their work, sometimes by chance, made brilliant observations and added these to the body of medical knowledge.

Without these efforts it is safe to say that few if any of the discoveries would have been made that have brought modern medicine to the higher level on which it stands today. We must continue basic research, clinical studies, and observations vigorously. We must support them generously or advances in prevention of disease and the care of the sick will cease.

At the advanced age of 126 years, The Brooklyn Hospital has taken on new life, has met its challenges head on, and has become a vigorous institution in the forefront of the efforts to solve the manifold problems of providing health care to all our citizens in the inner city.